

**Utah Department of Health
TB Control & Refugee Health Program**

Workplace Contact Investigation Protocols

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A. INTRODUCTION

The following guidelines were primarily developed to assist local health departments (LHDs) in completing contact investigations in the workplace. However, occupational health and infection control staff outside of health departments may find this document useful. Suspect and confirmed cases of tuberculosis are of public health concern and are immediately reportable to the Utah Department of Health (UDOH) TB Control Program or to the local health departments as required by the Utah Communicable Disease Rule, R386-702, which can be accessed at www.rules.utah.gov/publicat/code/r386/r386-702.htm. For information on policies, protocols, and recommendations for the State of Utah on how to manage a suspected or confirmed TB case, please consult the LHD Nursing Supervisor, the Nurse Consultant at the UDOH TB Control Program, and/or the TB Control Program Manual at www.health.utah.gov/cdc/tbrefugee.

Worksite contact investigations (WCIs) may be appropriate for confirmed/suspected cases of sputum AFB-smear positive pulmonary and/or laryngeal TB, which are considered to be infectious. WCIs are generally not indicated for cases of confirmed or suspected sputum AFB-smear negative or extrapulmonary TB. Although the steps outlined in the guidelines need not be followed in the sequence presented, the case manager should ensure that each step is addressed during the course of the contact investigation. All steps are to be implemented by the case manager unless otherwise indicated.

When conducting a WCI, it is critical to identify and screen all employees whose proximity to and interactions with the index case place them at risk for TB exposure and infection. Whether a given employee is at risk largely depends on three factors:

1. **Quantity of exposure:** How much time was spent sharing air with the index case during the infectious period? The key measure is the number of hours of shared air – that is, the number of hours the employee was exposed face-to-face to index case.*
2. **Quality of exposure:** How conducive is the shared environment to TB transmission?
3. **Employee characteristics:** Does the employee have HIV infection or other pre-existing health problems that place him/her at high risk for TB infection if exposed or of developing TB disease if they are infected?

The contacts are prioritized based on their exposure time and personal level of risk of developing TB disease. The first round of testing involves administering tuberculin skin tests (TSTs) to the high priority contacts. If no positive TSTs are found or if the percentage of individuals testing positive is below the percentage expected to be found in that community, expanding the contact investigation is not necessary. TSTs are repeated 8 to 10 weeks after the infectious period ends to make sure no transmission occurred; and the results are re-evaluated to determine whether to expand or limit the WCI.

* In cases involving high-risk contacts, the number of hours of exposure to the index case may include the amount of time spent in rooms that were occupied by the index case up to 2 hours previously.

When a WCI is conducted, the health department and the employer share responsibility for its success. The health department is responsible for:

1. determining the size, scope and flow of investigation
2. educating employer/managers about TB, contact investigations, and procedures for establishing risk of infection
3. educating employees about TB infection and disease
4. ensuring that contacts are tested for TB infection and, if necessary, referred for further screening and treatment
5. maintaining confidentiality.

The employer is responsible for:

1. providing a safe working environment
2. maintaining confidentiality
3. cooperating with the health department
4. releasing employees without penalty for testing, including chest x-rays (CXRs) and other follow-up appointments.

B. DEFINITIONS

For the purpose of this guideline, the following definitions apply:

Concentric circle approach: A means of grouping contacts into higher or lower priorities. A contact investigation should begin by testing high priority contacts. If the investigation documents evidence of transmission, it may be expanded to include lower priority contacts.

Contacts: A person who has shared air with the index case.

High priority contacts: Either close contacts or high-risk contacts.

Close contacts: Contacts having the greatest number of hours of shared air with the index case. Since TB is rarely transmitted by a short exposure, a close contact is an individual who has 12 or more hours of exposure within a 15-foot radius within a small number of days or as determined on a case-by-case basis.

High-risk contacts: Contacts at high risk of developing TB disease if infected, including children less than 4 years of age, individuals infected with HIV, and individuals with the following medical conditions: silicosis, gastrectomy or jejunioileal bypass, low body weight (10% or more below ideal), chronic renal failure/dialysis, diabetes mellitus, organ transplant, carcinoma of head or neck, or high-dose corticosteroid therapy (greater than or equal to 15 mg/d for one month or greater). These individuals are considered high priority contacts even if the number of hours of shared air is low.

Index case: A suspected or confirmed case of pulmonary or laryngeal TB.

Low priority contacts: Contacts who are not high risk or who have fewer hours of shared air with the index case.

Non-contact: A person who has probably not shared air with the index case but requests inclusion in the contact investigation, i.e. a worried person who was probably not exposed.

Secondary TB case: A case of active TB disease discovered as a result of the contact investigation.

C. WORKSITE CONTACT INVESTIGATION – ACTION PLAN


STEP	ACTIVITY/DESCRIPTION	RESPONSIBLE PERSON	DUE DATE	DATE COMPLETED
STEP 1	MEDICAL RECORDS REVIEW AND PATIENT INTERVIEW			
1-A	Review the index case's medical information to confirm diagnosis of sputum AFB-smear positive pulmonary and/or laryngeal TB.			
1-B	Interview the index case.			
1-C	Establish the period of infectiousness.			
1-D	Determine if there are factors present at worksite that enhance likelihood of TB transmission.			
STEP 2	ASSESS NEED FOR WCI AND DETERMINE ITS SCOPE			
2-A	Decide if a WCI is necessary.			
2-B	Review current policies regarding confidentiality.			
2-C	Re-interview index case, focusing on worksite; request permission to disclose her/her identity.			
STEP 3	ESTABLISH COMMUNICATION WITH THE WORKSITE			
3-A	Contact the worksite.			
3-B	Establish who will be the employer liaison.			
3-C	Provide educational information re: TB and contact investigations to the employer representative and other key staff.			
3-D	Determine who will pay for the different investigation costs.			
3-E	Ensure that the employer understands the need for confidentiality and other legal concerns.			
3-F	Answer any questions re: the index case that the employer may have.			
3-G	If applicable, establish media contacts at UDOH, the LHD, and at the worksite.			
STEP 4	DEVELOP AN ACTION PLAN			
4-A	Verify information provided by the index case with the employer			
4-B	Prepare a written action plan.			
4-C	If applicable, document the need and arrangements for the screening in a letter to the company.			
STEP 5	CONDUCT AN ENVIRONMENTAL EVALUATION OF THE WORKSITE			

5-A	Determine where the index case spent time.			
5-B	Evaluate the spaces to determine how conducive they are to TB transmission.			
STEP 6	DEVELOP THE CONTACT LIST			
6-A	Identify individuals with whom the index case had contact.			
6-B	Determine which employees are high priority vs low priority contacts.			
6-C	Prepare a roster of contacts.			
6-D	Identify contacts who face barriers to healthcare.			
STEP 7	ARRANGE FOR FOLLOW-UP X-RAYS			
7-A	Identify a resource for chest x-rays (CXRs).			
7-B	Determine who will pay for the CXRs.			
STEP 8	ARRANGE FOR SCREENINGS AND TSTS			
8-A	Determine with the employer a screening site.			
8-B	ON-SITE SCREENING: Select a suitable space, date, and time for the screenings.			
8-C	OFF-SITE SCREENING: Determine where employees will be referred for testing.			
8-D	Set a target date for the completion of the first round of screening.			
STEP 9	EDUCATE THE COMPANY'S EMPLOYEES ABOUT TB			
9-A	Assess what kinds of educational materials would be appropriate.			
9-B	With the employer, plan and conduct the educational session.			
9-C	If an educational session is not feasible, make alternative arrangements for distributing materials and answering employees' questions.			
STEP 10	NOTIFY CONTACTS ABOUT AND CONDUCT SCREENING SESSION(S)			
10-A	Notify affected employees regarding their exposure and need for screening.			
10-B	ON-SITE TESTING: Conduct initial screening activities.			
10-C	OFF-SITE TESTING: Await test results.			
10-D	Arrange for and obtain CXRs.			
10-E	Refer for bacteriology evaluation and consideration for treatment.			
10-F	Be diligent in follow-up to make sure that referred individuals are properly diagnosed and treated.			
STEP 11	DECIDE WHETHER TO EXPAND OR LIMIT THE WCI			
11-A	Evaluate initial screening results to determine whether to expand the WCI.			
11-B	Consult with Local Health supervisor/officer.			
STEP 12	CONDUCT A THREE-MONTH FOLLOW-UP SCREENING-			
12-A	Notify contact who need to be re-tested.			
12-B	Make a list of contacts who require follow-up testing and set follow-up testing date.			
12-C	Conduct follow-up testing.			
12-D	Arrange follow-up CXRs as necessary.			
STEP 13	REPORT THE INITIAL RESULTS			
13-A	Prepare an aggregate report and present it to the employer.			

D. PROCESS OF A WORKPLACE CONTACT INVESTIGATION

The steps outlined below describe the activities that need to be completed in order to conduct a successful worksite contact investigation. Although the steps outlined in the guidelines need not be followed in the sequence presented, the case manager should ensure that each step is addressed during the course of the contact investigation. The forms associated with a particular step are listed in brackets and hyperlinked; more detailed information on implementing steps can be found in Appendix A and can be accessed by clicking on the light bulb icons.

STEP 1 – Medical Records Review and Patient Interview

A) Strive to gather as much information as possible on a case prior to contacting an employer. Review the index case's medical information to **confirm the diagnosis/strong suspicion of active sputum AFB-smear positive pulmonary and/or laryngeal TB**. Remember that a positive PPD alone does not indicate disease. Worksite contact investigations are generally not indicated for cases of confirmed/suspect sputum AFB-smear negative or extrapulmonary TB. 


B) **Interview the index case** to determine:

- when symptoms, particularly coughing, first became apparent
- patient's pattern of activities during period of infectiousness
- with whom the patient habitually had contact - at work, while commuting, at school, and at any other location - during the period of infectiousness.


The interview is also a time to educate patients about TB and to address their concerns.

[\[Symptoms History Form\]](#) [\[Index Patient Schedule Form\]](#) 

C) **Establish the period of infectiousness** using information from the patient interview and the medical record.

- Determine, based on treatment records, whether the period of infectiousness is over or is ongoing. [\[Symptoms History Form\]](#) 

D) Based on the index case interview, **make an initial determination as to whether there are factors present that enhance the likelihood of TB transmission at the worksite**, such as:

- type of worksite (eg, an enclosed environment)
- type of work (eg, the index case works closely with several co-workers)
- type of people present in the worksite (eg, children, the elderly, HIV-positive individuals, or other at-risk persons). 

STEP 2 – Assess Need for Worksite Contact Investigation & Determine Its Scope

A) Consult with the Local Health Department (LHD) supervisor/officer and TB Controller to **decide if a worksite contact investigation (WCI) is needed**, and if so, to make a preliminary determination of its scope and scale. If it is determined that a WCI is

necessary, **consider alerting other involved agencies** of the case and its likely amount of media interest. [[Internal Notification Form](#)]. 💡

B) **Review current policies regarding confidentiality** in UCA 26.6 and the TB Rule and prepare appropriate documentation to share with the index case and worksite representatives. [[Employer Confidentiality Acknowledgment](#)]

C) **Re-interview index case**, focusing on questions related to the worksite. Explain the importance of the WCI and his/her legal protections but request permission to disclose the patient's identity to the employer. In some circumstances, public health officials may legally reveal the index case's identity, but the patient's cooperation usually improves the process and helps to eliminate gossip and hearsay. 💡

STEP 3 – Establish Communication with the Worksite

A) **Contact the worksite.** A phone call to the human resources manager is a good place to start for assistance in identifying the most appropriate contact person. It is important to gain the cooperation of management as they can be invaluable in planning and carrying out the WCI. 💡

B) **Establish who will be the employer's representative/liaison;** this should be a person who has appropriate decision-making authority.

- Review confidentiality laws/policies in UCA 26.6 and the TB Rule prior to revealing index case identity. [[Employer Confidentiality Acknowledgment](#)]
- Emphasize that the identity of the index case should only be revealed on a "need to know" basis.

C) **Provide educational information to the employer representative and other key staff**, including unions, to provide information regarding TB. Discuss the need for a WCI and how it will be conducted, including the mechanism for identifying contacts. Establish a clear understanding of the roles and responsibilities of the health department and the employer. Distribute suitable educational materials. 💡

D) **Discuss the costs** that will be incurred and explore whether the employer's workers compensation policy or health insurer may be able to cover all or part of the costs. The employer and the LHD should arrive at an understanding as to who will pay for TSTs, CXRs, sputa collection, and the initial evaluation. Refer to the Utah TB Control Program Manual for guidance on evaluating contacts; the Manual is available on the Internet at www.health.utah.gov/cdc/tbrefugee/program_manual.htm. 💡

E) **Discuss the employer's legal responsibility** in connection with the WCI. This includes the need to maintain confidentiality of the index case and others who may be found to have latent TB infection (LTBI) or active TB disease (ATBD); the employer's obligation to provide a safe working environment; and the employer's responsibility to ensure that an individual diagnosed with active TB does not suffer any negative

repercussion at the worksite or by other employees as stipulated by the Americans with Disabilities Act.

F) **Discuss the index case** and address the employer's concerns regarding his/her absence from work. Explore the possibilities of using

- paid leave
- short-term disability
- incentives and enablers.

G) **Discuss media issues.** If applicable, inform your Public Information Officer (PIO) of the WCI and keep him/her updated. Establish media contacts at the state and local health departments and at the worksite. [[Internal Notification Form](#)]

STEP 4 – Develop a Written Action Plan (with employer liaison & LHD Supervisor/Officer)

A) Consult with the employer liaison to verify information provided by the patient regarding worksite locations, activities, and contacts. [[Index Patient Schedule Form](#)]
Note and explore discrepancies.

B) **Prepare an action plan.** [[Action Plan](#)]

C) If indicated, **send an official letter** to the company, school, or facility to document the need to have employees screened and to verify the arrangements made to conduct screening.

STEP 5 – Conduct an Environmental Evaluation of the Worksite

A) **Confirm where the index case spent time**, including lunchrooms, break rooms, and commute vehicles. [[Index Patient Schedule Form](#)]

B) **Evaluate the spaces in question** to determine how conducive they are to TB transmission. Determine the airflow of the spaces, i.e. where the air comes from and where it goes. 💡


STEP 6 – Develop the Contact List

A) Examine the index case's activity patterns at the worksite and **identify individuals with whom he/she came into contact**. Keep in mind that this is a fluid process; self-reporters should be interviewed and classified accordingly.

[[Index Patient Schedule Form](#)] 💡

B) **Determine which employees are high priority, low priority contacts, or non-contacts.** Refer to the definitions of these terms in Section B.

[\[Concentric Circle Approach\]](#)

C) **Prepare a roster of contacts.** [\[Contact Investigation Record\]](#) 

D) **Identify contacts who face barriers to healthcare,** e.g. language barriers, lack of insurance and/or transportation.

STEP 7– Arrange For Follow-Up X-Rays


A) **Identify a resource for chest x-rays (CXRs).** It is necessary to perform CXRs to rule out active pulmonary TB under the following conditions:

- a contact is found through the investigation to be skin test positive (≥ 5 mm), including a person who reports a previously positive TST
- a contact is symptomatic (has a cough that has persisted for three weeks or more plus one other symptom of TB) regardless of the TST result
- a contact is immune-compromised, younger than 4 years of age, or there is doubt as to whether the TST would be effective or accurate for this person.

B) As with the cost of TSTs, **explore options with the employer about who will pay** for the CXRs. The employer's workers compensation policy or health insurer may be able to cover part or all of the cost. Contact the State TB Control Program if any pediatric (<18 years) CXRs are required.

STEP 8 – Arrange for Screening and TSTs

A) **Determine with the employer the screening site.** On-site screening makes obtaining a TST more convenient for employees, and testing can be performed efficiently and promptly in a few sessions.

B) **ON-SITE SCREENING:** Consult with the employer liaison to **select a space, dates, and times** at which health staff will be present on-site to interview the contacts, administer the TST, and read and explain the test results. If this cannot be accomplished in a private and confidential manner, consider administering the TSTs and arrange to conduct counseling on another date. 

C) **OFF-SITE SCREENING:** **Determine where employees will be referred** for testing.

- Make arrangements with off-site providers, including instructions for reporting test results and information on how billing and payment will be handled. Have employees sign a Release of Information form.

[\[Private Physician TST and Screening\]](#)

- Establish referral and follow-up procedures for public and private treatment of both ATBD and LTBI. Collect data to ensure all contacts are screened and that individuals with positive results are treated.
[[Private Physician TST and Screening](#)] [[Contact Investigation Record](#)].
- Notify off-site providers of the date by which all results should be reported to the health department. Follow-up with off-site providers if you do not receive test results reports when they are required.

D) **Set a target date for the completion of the first round** of screening, whether this is performed on-site or off-site.

Step 9 – Educate the Company’s Employees About TB

A) Education may be the most important part of a worksite contact investigation and should be provided to affected employees at the worksite. Providing facts and answering questions can help to reduce unnecessary fears and help employees to be more willing to cooperate with the investigation. **Assess what kinds of educational materials would be appropriate** for the employees, given their literacy levels, English-language skills, and other relevant factors. You may need materials of more than one kind in order to reach everyone in your audience. The TB Education and Training Resources website, www.findtbresources.org/scripts/index.cfm, is an excellent resource.

B) With the employer liaison, **plan and conduct the educational session(s)**. Obtain permission for employees to be away from their duties in order to attend. Ensuring the presence of adequate translation and interpreting services is the responsibility of the employer and/or LHD, not the employee, per Title VI of the Civil Rights Act of 1964 (www.hhs.gov/ocr/lep/). A list of Medicaid funded interpreters can be found at www.health.state.ut.us/medicaid/pdfs/interpreter.pdf; interpreting services can also be found in the yellow pages under “Translators & Interpreters.” Hand out written materials at the literacy level and in a language appropriate to employees, and provide a telephone number that employees can call if they want more information. 💡

C) If an educational session is not feasible, **make alternative arrangements** for distributing educational materials and answering employees’ questions. 💡

Step 10 – Notify Contacts and Conduct the Screening

A) **Notify affected employees** that they have been exposed to an individual with TB and need to be tested for possible TB infection. In most instances, the employer will inform the affected employees in person. A letter may be used in some circumstances, e.g. to inform contacts who are no longer employed at the worksite. Whatever the method:

- include suitable supporting information for enclosure in letters and distribution during in-person notifications

- establish a phone number, liaison, or other means for handling employee requests for further information.

[\[Letter Company to Employees\]](#) [\[Letter LHD to Employees\]](#)

[\[Letter LHD to All Parents and Staff\]](#) [\[Letter LHD to Affected Parents and Staff\]](#)

Whatever method you use, it is helpful to follow-up the notification with an educational session. Your goal is to encourage the contacts to comply with the screening instructions, while avoiding rumors and unnecessary fears. 💡

B) ON-SITE TESTING: Conduct initial screening activities. For each individual who arrives for screening:

- verify the person's information in the contact roster
- take a **medical history** [\[Medical History for TB Screening\]](#)
- explain the TST procedure
- **administer the TST.**

Remember that privacy and confidentiality are essential as each contact must be asked about personal health information, including but not limited to symptoms, previous TST results, and HIV status. Separate, self-contained offices are preferable, but screening can also be done in somewhat isolated work cubicles if privacy and confidentiality can be maintained. Using some type of background sound (a radio or sound generator) can mask the conversations, while curtaining the cubicle entrance can provide visual privacy.

Instruct the tested individuals to return for the scheduled reading of the tests 48-72 hours after placement. At that time, you will **read the tests**, explain the results, and answer any concerns/questions. 💡

C) OFF-SITE TESTING: If contacts are referred to clinics or off-site providers, your task at this stage is to **await the test results**. Record the date, results, and provider of each contact's TST on the contact roster as the info is received. [\[Contact Investigation Record\]](#) Follow up as needed with employees and providers to make sure that the testing takes place and results are reported in a timely manner.

D) AFTER ALL SCREENING: Arrange for and obtain CXRs for:

- individuals with positive TST results
- anyone who shows TB symptoms regardless of test results
- HIV-positive individuals for whom there is reason to believe that the skin test result is ineffective.

[\[Chest Xray Log\]](#)

E) If any individuals have findings indicative of TB infection or disease, refer for bacteriology evaluation and consideration for treatment.

F) Be diligent in follow-up to make sure that referred individuals are properly diagnosed and treated. The investigation is not complete until all testing has been accomplished and the final outcomes of all treatment individuals have been documented.

Step 11 – Decide Whether to Expand or Limit the Contact Investigation

A) Evaluate the initial screening results to determine whether to expand the WCI.

The decision to expand the WCI should be made on a case-by-case basis.

Limiting the WCI: When the screening has yielded no evidence of TB transmission – that is, there were no secondary cases of TB disease, no skin test conversions in contacts at the worksite, and/or the percentage of positive tests falls below the community’s baseline positivity rate – consider limiting the worksite investigation to the people already tested. To expand testing at this point probably would not be productive.

Expanding the WCI: Indicators for expanding the investigation would be:

- identification of secondary TB cases, especially if it can be linked by evidence or transmission or by DNA fingerprinting
- a skin test conversion in a workplace contact
- rate of positive TSTs significantly exceeds the baseline positivity rate for a population that has similar demographic and geographic characteristics as the group you tested.

If the screening yields such results, hold a second round of testing that brings in the contacts who were placed in the next ring on the Concentric Circle Diagram. Continue the investigation until the screening yields the rate of positive tests than you would expect to find if random testing were done in your community. 💡

B) If the screening results are higher than anticipated, **consult with the Local Health supervisor/officer** or, if needed, contact the UDOH TB Control Program for further assistance.

Step 12 – Conduct a Three-Month Follow-Up Screening If Needed

A) **Notify contacts** who need to be re-tested to explain why the retesting is important and inform them about the arrangements. [[Letter LHD to Parents and Staff 2nd TST](#)]

B) **Make a list of contacts who require follow-up testing and determine an appropriate date** to conduct the testing – 8 to 10 weeks after the initial TST or last known exposure date while index case was infectious.


C) **Conduct follow-up TSTs** to ensure that all skin test converters have been identified.

D) **Arrange follow-up CXRs** as necessary.

Step 13 – Report the Initial Results

A) **Prepare an aggregate or summary report and present it to the employer,** indicating:

- how many persons were screened
- how many positive and negative test results were obtained
- whether any secondary cases of TB disease were found
- whether any of the secondary cases were infectious.

Specifics of the additional TB cases should be discussed with the employer only in the event that further screening efforts are required. Submit a copy of this report to the TB Controller. [[Contact Investigation Summary Report](#)] 

E. ACKNOWLEDGEMENTS

These guidelines were adapted from the Francis J Curry National TB Center's *Toolbox: Contact Investigation in a Worksite* and from forms/letters provided by the Salt Lake Valley Health Department.

APPENDIX A – Additional information in implementing steps in the guidelines.

Step 1A – Medical Records Review

Review the medical record to determine whether the patient has been infectious and, if so:

- Determine site of TB disease
- Review TST and chest x-ray results
- Review sputum smear, culture, and/or NAA testing results
- Determine when symptoms were first present
- Determine where the patient was seen for medical care in the past year, and how many times the patient has been to a doctor, clinic, or hospital in the past year

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Step 1B – Interview the Index Case

The patient interview is one of the most critical parts of a contact investigation. For the patient interview to be successful, the health worker should:

- Develop rapport with the patient
- Assess the patient's knowledge, feelings, and beliefs about TB; educate the patient; and address their concerns
- Explain the importance of the CI in preventing and controlling TB
- Ask open-ended questions
- Relate onset of symptoms to certain events, e.g. birthdays, holidays, major new reports, and discuss medical care sought for symptoms
- Discuss confidentiality

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Step 1C – Establish the period of infectiousness

Using information obtained from the medical records review and the patient interview:

- Determine, as closely as possible, the date when symptoms began.
- Compare the date when symptoms began to the date when the first positive finding consistent with TB disease (CXR, positive sputum smear) was identified.
- Estimate the start of infectiousness period based on these dates.

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Step 1D – Determine if factors enhancing transmission exist at worksite

Answer these questions about the worksite:

- Where does the index case work? Inside or outside?
- If inside, what kind of space does he/she work in? Enclosed or open? Obtain a description of the area, including size of room, sunlight, ventilation.
- How many people work in the same space?
- In addition to employees in the index case's workspace, how many other employees does he/she spend time with at work? Obtain a description of these areas.
- With whom and where does the index case eat lunch/spend breaks? Obtain a description of these areas.
- With whom and how does the index case get to and from work?

Step 2A – Assess need for WCI and determine its scope

Review data gathered from the patient interview and answer these questions:

- Does the worksite have factors that enhance TB transmission?
- How many people need to be tested?
- Who are the people who need to be tested?
- Is media likely to be interested or aware?

Step 2C – Reinterview index case

See “How to” Steps 1B and 1D.

Step 3A – Contact the worksite

Answer these questions about the worksite:

- Does the worksite have an employee health department or nurse?
- Who is the patient’s supervisor?
- Is there a union representative?

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Step 3C – Discuss WCI with employer representatives

Cover the following topics in discussions with the employer:

- What TB is, how it is diagnosed and treated, LTBI vs ATBD
- Mechanism for identifying potential contacts.

Step 3D – Discuss costs

Arrive at an understanding about who will pay for the following:

- Notification letters
- Education, including interpretive and translation services
- Testing and chest x-rays
- Follow-up and medication

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Step 5B – Evaluating the work spaces in question

In order to assess who in the workplace is at risk, it is important to understand what kind of environment the worksite provides. If possible, contact the facility manager or environmental engineer for assistance. Use your best judgment on the likelihood of TB transmission in each work area.

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Step 6A – Identify individuals with whom the index case came into contact.

Answer these questions:

- What are the index case’s principle job responsibilities and activities?
- What is the index case’s work schedule (days and times)? Were there any changes to the work schedule within the period of infectiousness?
- How much time has the index case spent in the workplace during the infectious period?
- Did the index case stay in one work area for the entire shift, move about the building(s) regularly, or leave the premises for extended periods?
- Which employees, if any, share the workspace of the index case? What is the proximity of their work areas?
- In an average day or week, which other employees does the index case spend time with during the course of his or her activities: meetings, visits to other persons’ workspaces, commuting, lunch and break times?

Step 6C – Prepare a contact roster

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With employer liaison, prepare a **list of contacts** that includes the following information:

- Name
- Date of birth or age
- Gender
- Contact information (address and phone number)
- Relationship to index case
- Risk of developing TB disease if infected (high/low)
- Dates of possible exposure (to determine need for re-screening)

Step 8B – Onsite Screening

Consult with employer liaison to **select a space** that can be set up to accommodate the screening efficiently. Privacy and confidentiality are essential as each contact must be asked about personal health information, including symptoms, previous TST results, and HIV status. The space must be private enough for the contact to respond candidly. Separate, self-contained offices are preferable, but screening can also be done in somewhat isolated work cubicles if privacy and confidentiality can be maintained. Using some type of background noise, e.g. a radio or generator, can mask the conversations between the health worker and the employee; and curtaining the cubicle entrance can provide visual privacy.

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Step 9B – Plan educational session.

Your educational efforts should address the following topics:

- What TB is, how infection occurs, and how it is diagnosed and treated.
- LTBI vs ATBD
- The need to screen co-workers due to the recent discovery of a TB case at the worksite (maintain the confidentiality of the index case)
- The degree of risk faced by worksite contacts (Concentric Circle Approach). The degree of risk faced by families of worksite contacts.
- The purpose of the contact investigation and how the testing will be carried out (describe the TST procedure).
- Follow-up that will occur in the event that a test is positive.
- Confidentiality.

Step 9C – Make alternative arrangements to educational sessions.

These arrangements may include:

- providing materials for distribution during in-person notifications
- including materials with letters of notification
- establishing a phone number of liaison to handle employee requests for further information (See Step 10B)

Step 10A – Notify affected employees re: their exposure to an active TB case.

The options to notify affected employees include:

- a form letter or personalized letter from the employer, distributed on-site or by mail
- a form letter or personalized letter from the health department, distributed on-site or by mail
- a telephone call
- face-to-face notification by supervisors
- a meeting or educational session
- a combination of these methods.

To determine which options is most suitable, consider such factors as:

- the number of individuals to be notified
- their level of trust for the employer or for the health dept
- their literacy and language skills
- the need to reach contacts who are no longer employed by or connected with the worksite.

Select a signatory (employer or health dept) and **prepare a letter to contacts** which can be mailed as the primary form of notification or distributed during in-person notifications. The letter should document:

- the schedule and procedure for testing and reading of results
- what test results may mean to an individual
- the means by which a private physician can report results to the health dept.

The letter may be useful in reaching contacts no longer connected to the worksite.

Include suitable supporting information for enclosure in letters and distribution during in-person notifications.

Step 10B – Conducting Initial Screening Activities

Screening activities include asking questions about exposures and risk factors, administering the TST, and reading the results. Unnecessary testing of non-contacts can be avoided by explaining that the initial testing is limited to close contacts. If indicated, non-contacts and/or low priority contacts can be referred to the LHD to obtain TSTs for a fee.

Keeping careful records and completing follow-up of off-site test results is crucial. Even if most of the testing is done on-site, there are likely to be some off-site tests due to unexpected absences, a person's preference for a familiar provider, or other reasons. The investigation is not complete until all results have been reported – and acted upon – if treatment is indicated.

ON-SITE TESTING

Bring the supplies **needed to carry out the testing**. **You will want to bring enough materials on hand to test 110% of the identified contacts – that is, be prepared for 10% more individuals than you actually anticipate testing. Avoid unnecessary testing of non-contacts.**

Set up the space for screening. It is best to arrive 30 minutes prior to the advertised testing times in order to set up.

Step 11A – Decide Whether to Expand or Limit the Contact Investigation

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Calculate Baseline Positivity Rate: In any population, a certain percentage of individuals will test positive for LTBI. This percentage is known as the baseline positivity rate and is calculated by the formula:

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$$\frac{\text{\# of newly-identified (+) TSTs} \times 100}{\text{total \# of TSTs placed \& read}}$$

For example, in the winter of 2002-03, 38 of the 271 TSTs that were placed and read at the Overflow Homeless Shelter were positive. The baseline positivity rate for the homeless in Salt Lake City was calculated as: $38 \times 100/271 = 14\%$. The baseline positivity rate of one group will differ from the rates of other groups that have different demographic and geographic characteristics.

To determine LTBI prevalence you can expect locally, look at large, broad-based numbers from TB screenings in your community, such as school screenings, pre-employment physicals, and other routine testing. Workplaces that involve childcare, healthcare, or prisoners are likely to have consistently recorded pre-employment test results. What percentage of these tests was positive? This baseline information gives you a rate against which to measure the results of your contact investigation.

Obtain the results of any broad-based local TB screenings of populations that share demographic characteristics with the contacts who are the subjects of your investigation and calculate the baseline positivity rate.

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Compute the percentage of positive tests, if any, yielded by your WCI using the formula above and compare that number to the baseline positivity rate for guidance on limiting or expanding the investigation.

Step 13 – Prepare an aggregate report. A summary report is also a good way to close the WCI with the employer. The employer is not entitled to know the results of the individual employees' tests. Even w/aggregate information, be sure to protect the identity and confidentiality of any individual who tested positive or who is diagnosed as a secondary case of TB. For example, if there are very few women in the screened population, do not provide statistics by sex. Similarly, if few foreign-born individuals were screened, do not detail their results separately from those of the native-born. Protecting the individual is the responsibility of the health workers.

APPENDIX B – Sample forms, letters and additional tools

FORMS

Index Patient Schedule
Symptom History for Establishing TB Infectious Period
Contact Investigation Record
Medical History for TB Screening
SLVHD TB Reactor Form

LETTERS

From company to employees re suspect case + testing dates
 Enclosure for letter: documentation of eval from private physician
From LHD to employees re confirmed case + testing dates
School Letter: from LHD to ALL Parents/Staff
School Letter: from LHD to Staff/Parents of Students with Exposure w/Test Dates
School Letter: from LHD to Staff/Parents of Students w/Exposure – 2nd TST date

MISCELLANEOUS

Internal Notification of a Public Health Incident
Employer Acknowledgment of Confidentiality
Chest X-ray Log
Contact Investigation Summary Report
Concentric Circle Approach to Contact Investigations for TB
Workplace Contact Investigation – Action Plan

INDEX PATIENT SCHEDULE

Index Patient's Name: _____ Likely Period of Infectiousness: _____

Employer: _____ Index Patient's Job Title: _____ Last Day Worked: _____

Schedules

Patient Data	As reported by patient	As reported by Employer	Explain discrepancies (if any)
Job description/activities			
Length of service in current position	____ years and ____ months	____ years and ____ months	
A. Dates			
Work days/hours	S M T W R F S ____ am/pm to ____ am/pm	S M T W R F S ____ am/pm to ____ am/pm	
B. Dates			
Work days/hours	S M T W R F S ____ am/pm to ____ am/pm	S M T W R F S ____ am/pm to ____ am/pm	
C. Dates			
Work days/hours	S M T W R F S ____ am/pm to ____ am/pm	S M T W R F S ____ am/pm to ____ am/pm	
Group workspaces in which the index patient spent time			
Congregate settings in which the index patient spent time other than normal work routine, e.g. orientations, meetings, etc			
Areas in which the index patient spent lunch and breaks (eg smoking)			
Does patient interact with clients? If so, how?			
Patient's commute			

SYMPTOM HISTORY FOR ESTABLISHING TB INFECTIOUS PERIOD

Patient's name: _____

Date of birth: _____ Case Number _____

Symptom	YES	NO	Duration	Onset Date	Comments
Cough					Productive/dry:
Cough with blood					
Weight loss					
Night sweats					
Chest pain					
Loss of appetite					
Fever					
Chills					
Other					

Infectious period from: _____ **to** _____

(10 weeks prior to symptom onset or 12 weeks prior to first positive finding* consistent with TB - which ever is longer)

Comments: _____

Completed by / date: _____ / _____

Telephone number: _____

*Positive findings consistent with TB include, but are not limited to, the following: specimen collected which suggests or confirms a diagnosis of TB (positive AFB smear, positive NAAT for *M.tb*, positive *M.tb* culture), or chest x-ray showing abnormality consistent with TB, or initiation of treatment for TB

UDOH Tuberculosis Control Program

Contact Investigation Record

Case Name _____ County _____ PHN _____ Date case reported _____ Exposure Site _____
 Disease Site: P / EP / Both Smear: + / - / not done Culture: + / - / not done Infectious period from _____ to _____
 Date CI started _____

Contact	Exposure Site	HIV/IC (Y/N)	Contact Type*	Date Last Infectious Exposure	PPD Results		X-Ray		Dx	Tx Start Date	Tx Stop Date	Finish Tx/ Reason Not Finished‡
					Initial	Retest	Date	Results				
Name DOB Relationship Address/Phone#	Home Work School Other		HP MP LP NC		Date mm	Date mm			LTBI ATBD			Yes No: _____
Name DOB Relationship Address/Phone#	Home Work School Other		HP MP LP NC		Date mm	Date mm			LTBI ATBD			Yes No: _____
Name DOB Relationship Address/Phone#	Home Work School Other		HP MP LP NC		Date mm	Date mm			LTBI ATBD			Yes No: _____
Name DOB Relationship Address/Phone#	Home Work School Other		HP MP LP NC		Date mm	Date mm			LTBI ATBD			Yes No: _____
Name DOB Relationship Address/Phone#	Home Work School Other		HP MP LP NC		Date mm	Date mm			LTBI ATBD			Yes No: _____
Name DOB Relationship Address/Phone#	Home Work School Other		HP MP LP NC		Date mm	Date mm			LTBI ATBD			Yes No: _____

* CONTACT TYPE

HP=high priority contacts are household contacts, contacts <4 yrs, contacts with medical risk (including HIV infection), contacts in congregate setting, or contacts with prolonged exposure
MP=medium priority contacts are contacts 5-15 yrs or contacts with medium exposure to index case
LP=low priority contacts are all other contacts
NC=a person who probably did not share with the index case but requests inclusion in the CI

‡ REASONS FOR NON-COMPLETION OF LTBI TX:

1 - Death **4** - Adverse Effect of Medicine
2 - Contact Moved **5** - Contact Chose to Stop
3 - ATBD Developed **6** - Contact Lost to Follow-up
7 - Provider Decision

Medical History for TB Screening

Name _____ Date of Birth _____ Date _____
 Date of this skin test _____ Reading _____ mm Where placed _____
 Case No. _____

HAVE YOU EVER HAD:

CIRCLE ONE:

- | | | |
|--|-----|----|
| 1. Previous skin test for TB _____ | Yes | No |
| If yes: When _____ Where _____ Results _____ | | |
| 2. Previous CXR _____ | Yes | No |
| If yes: When _____ Where _____ | | |
| 3. Medicine (curative) for TB or (preventive) for a positive skin test _____ | Yes | No |
| If yes: When _____ Where _____ | | |
| 4. BCG vaccination: What age _____ | Yes | No |
| 5. Known exposure to someone with TB _____ | Yes | No |
| If yes: Who _____ When _____ Where _____ | | |
| 6. Diabetes _____ | Yes | No |
| 7. Epilepsy _____ | Yes | No |
| 8. Stomach surgery _____ | Yes | No |
| 9. Lung problems _____ | Yes | No |
| 10. Hepatitis A or B? (jaundice or liver problems) _____ | Yes | No |
| 11. HIV _____ | Yes | No |
| 12. Steroids or cortisone _____ | Yes | No |
| 13. History IV drug use _____ | Yes | No |
| 14. Other chronic conditions: _____ | Yes | No |

DO YOU NOW HAVE:

- | | | |
|--|-----|----|
| 1. Chronic cough: If yes, how long? _____ | Yes | No |
| 2. Blood in sputum _____ | Yes | No |
| 3. Loss of appetite _____ | | |
| 4. Weight loss _____ | Yes | No |
| 5. Shortness of breath _____ | Yes | No |
| 6. Fever _____ | Yes | No |
| 7. Night sweats _____ | Yes | No |
| 8. Fatigue _____ | Yes | No |
| 9. Do you drink alcohol (liquor) everyday? _____ | Yes | No |
| 10. Do you smoke? _____ | Yes | No |
| If yes, how much _____ | Yes | No |
| 11. Do you take any medicines now? _____ | Yes | No |
| If yes, list them: _____ | | |
| 12. Allergies _____ | Yes | No |
| If yes, list them: _____ | | |

FOR WOMEN ONLY: Are you pregnant? ____ Yes ____ No ____ EDC

Interviewer signature: _____

Date / Initials:

1. _____ Discussed significance of positive PPD
2. _____ Discussed the need for INH chemoprophylaxis if indicated

NEDDS #	Tuberculosis Evaluation Form For Referral to: Salt Lake Valley Health Department	NETSS #:
Communicable Disease Bureau: Medical Office; 610 So 200 E, Rm 209, SLC, UT 84111 (801) 534-4600		

Date: / /		Referring Nurse/Staff: _____		Clinic / Corrections	
Client's Name: _____		AKA: _____			
Home Address: _____		City: _____		State: _____ Zip: _____	
Home Phone: _____		Reason for Test? _____			
Work Phone: _____		Employment: _____		Work Hours: _____	
Date of Birth: _____		Age: _____		SS #: _____	
Sex: Male [] Female []		Birthplace: (City - Country) _____			
Doctor's name: _____		Out of country in past few year(s): Yes [] No []			
Doctor's Phone: _____		When: _____		Where: _____	
Dr. address: _____		Language (s): _____		Race: _____	
Medicaid Yes [] No []		Provider: _____		Emergency Contact Person _____	
Medical Insurance: _____		Relationship: _____		Phone _____	
		Emergency Contact add: _____			

Previous TB skin test	None	Yes	Positive	Negative	mm	Estimated Date: / /	Where
Current skin test	No	Yes	Positive	Negative	mm	Date Read: / /	2 Step Planned Yes No

Last Chest X-ray: Where: _____		When: _____		Results: _____	
---------------------------------------	--	--------------------	--	-----------------------	--

Cough	Yes	No	Started: _____	Description of Cough: _____	Color _____	Productive (Phlegm)	Yes	No
Weight Loss	Yes	No	Started: _____	How many pounds lost? _____	lbs.	Normal Weight	_____	lbs.
Appetite Loss	Yes	No	Started: _____	Fever(s)	Yes	No	Chills	Yes No
Fatigue	Yes	No	Started: _____	Night Sweats	Yes	No	Shortness of breath	Yes No
Chest Pain	Yes	No	Started: _____	Contact to TB?	Yes	Unk	When / Who?	

Previous TB treatment	Yes	No	TB Medicine: _____	How long? _____	Where? _____
------------------------------	-----	----	---------------------------	------------------------	---------------------

Current Medication:						Medication Allergies:								
Pregnant	Yes	No	Maybe	1st day L.M. Period / /	EDC: / /	Education Provided						Yes	No	
Chronic illness or Immune Problems				Yes	No	What Kind? _____	Handouts Provided						Yes	No
BCG Vaccine	Yes	No	What age?: _____	Hepatitis?	Yes	No	Type	Hep A	Hep B	Hep C	Unk			

Smoking	Yes	No	Date of last use: _____	Pack (s) per day: _____	Number of years: _____
IV Drug use	Yes	No	Date of last use: _____	Drug (s) of Choice: _____	How often: _____ How Much: _____ #yrs
Other Drug use	Yes	No	Date of last use: _____	Drug (s) of Choice: _____	How often: _____ How Much: _____ #yrs
Alcohol use	Yes	No	Date of last use: _____	Drink (s) of Choice: _____	How often: _____ How Much: _____ #yrs

HIV RISK	Denied	Yes	IVDU	Multiple sex partners	Fights	Blood contact	Date of last HIV test? _____	Positive	Negative
History of being in jail or Prison			Yes	No	HCW, or ID# or SO#: _____	Where	When		

Nursing Assessment			Nursing Care Plan & Recommendations						
Suspect active?	Yes	No	Chest X-ray Planned	Yes	No	SLVHD Co-pay amt	Yes	No	\$
TB Reactor	Yes	No	Chest x-ray other provider	Yes	No	Prior films	Yes	No	Where
TB Converter	Yes	No	Sputa Planned	Yes	No	Containers provided	Yes	No	Date
			Medication Planned	Yes	No	Meds Ordered	Yes	No	Date

Comment / Progress Notes:	

Send form to to:	Communicable Disease Bureau 610 S 200 E SLC UT 84111	FAX: 801-534-4557
-------------------------	--	--------------------------

Letter: from company to employees re suspected index patient w/testing date

[Company]
[Address]

[Date]

[Employee]
[Address]
[City, State, Zip]

To all employees:

[Agency name] will conduct a tuberculosis (TB) screening program on [date and time]. The tuberculin skin test that will be given can determine whether or not a person has been exposed to tuberculosis.

[Agency name] has informed us that an individual at this company may possibly have tuberculosis. This is not a medical emergency. The affected employee is receiving medical treatment and will return to work only when no longer considered infectious. As a precautionary measure, we have asked [agency name] to screen employees who may have been exposed.

Persons found to have a positive TB skin test will be asked to have a follow-up chest x-ray to be sure that they do not have tuberculosis. These tests will be performed free of charge by the [agency name].

Whenever many people are tested, some are always found to have positive skin tests. This does not always mean that they were exposed in the workplace where the testing is being done. Overall, results of the investigation can help determine if TB infection was transmitted in this workplace, or at some other time and location.

If you have had a previously positive tuberculin skin test, please bring documentation of this. The health department [title of health worker] will counsel you about the need for any further testing which may be necessary.

You may go to your family doctor for the TB skin test. If you do, you will need to have the doctor fill out the form enclosed with this letter and return it to [agency name].

Thank you.

[Name]
[Title of Employer/Supervisor]

ENC: 1

PLEASE RETURN THIS FORM BY FAX TO: PHN name and fax number

Dear Doctor:

Please complete the following information regarding the TB skin testing of this patient and return this portion by fax as soon as possible.

Note: Testing by the Mantoux method is required and self-reading is not allowed. Because this patient is a contact to a person with communicable TB, **a reading of 5 mm or greater is considered positive.**

Patient's name: _____

Address: _____

Telephone no: _____ Date of Birth: _____

Mantoux Test:

Date placed: _____ Date read: _____ Results: _____ mm

Follow-up medical evaluation:

Chest x-ray date: _____ Results: _____normal _____abnormal

Medical evaluation date: _____

Diagnosis: _____Case _____Suspect _____Reactor (latent infection, no disease)

Therapy: _____yes _____no

If yes, medication: _____ Dose: _____

Date started: _____

Name of physician: _____

Address: _____

Telephone number: _____

Physician's signature: _____ Date: _____

Letter: from LHD to employees re confirmed case w/testing date

[Date]

[Former Employee]

[Address]

[City, State, Zip]

Dear [Employee]:

Recently you may have been in contact with an individual who has active tuberculosis (TB). To protect your health, the [agency name] strongly recommends that you receive a TB skin test. For your convenience, the [agency name] will provide skin tests at your worksite. The test will be given on [date and time] and is free of charge. Test results will be read on [date and time].

This simple test is called a PPD skin test or "Mantoux" skin test. It indicates whether you have any TB germs in your body. The test involves a slight prick to the skin on your forearm. Most people experience very little or no pain or discomfort. After 48 to 72 hours, the [agency name] representative will look at your arm and determine if the test is negative or positive.

1. You have a *negative* test result if there is little or no change to your skin on your arm around the test area. It means that at this time there is no evidence that you are infected with the germ that causes TB. If you have been exposed to a person with TB, it can take up to 8-10 weeks to develop a positive PPD skin test. Therefore you will need to be tested again in 8-10 weeks. .
2. A *positive* test result shows as a small swelling on your arm around the test area. It means that the germ that causes TB is present in your body. You will need to have a chest x-ray to determine if the TB germ is active. A positive skin test *does not* mean that you have TB disease or can give TB to anyone else. Any needed follow-up will be provided by [agency name].

If you prefer, you may go to your family doctor for the TB skin test. In that case, have the doctor fill out the bottom portion of this letter and return it to [agency name] at the address at the top of this letter. You should have your doctor give you the test by [date].

Please read the attached fact sheet about TB. It will answer many of your questions. Just before the testing on [date and time], we will hold a meeting at your worksite to give you more information. In the meantime, if you have any questions, please call [agency name] at [phone number].

Sincerely,

[Name]

Title

Dear Doctor:

Please complete the following information regarding the TB skin testing of this patient and return this portion by mail or fax as soon as possible to [agency name, address, fax number].

Note: Testing by the Mantoux method is required and self-reading is not allowed. Because this patient is a contact to a person with communicable TB, a reading of 5 mm or greater is considered positive.

Name of patient: _____
PPD: Date placed: _____ Date read: _____ Results _____ mm
Chest x-ray done: (circle) Yes/No
If yes, CXR date: _____ CXR results: WNL (within normal limits) / other: _____
INH start date: _____
Physician's name and phone number: _____

School Letter: from LHD to All Parents/Staff

Date

Dear Parents, Staff, and Students:

A student at [Name of school] has been diagnosed with active tuberculosis disease. This student is under the care of a physician and is being treated. The [State Health Department] and [Name of Local Health Department]s have reviewed this case and necessary actions are being taken for the protection of every student, staff, and faculty member.

At the present time this student is no longer infectious; however limited exposure may have occurred in the recent past. We will be conducting testing of those whom we feel are at greatest risk of exposure. Those specific individuals will be contacted directly by the school, indicating dates and times of the testing.

Although this disease is worrisome, it is treatable and curable. Tuberculosis is not easily transmitted, and the likelihood of infection is quite low. If you have any questions, please call [LHD phone number].

Sincerely,

Local Health Officer

School Letter: from LHD to Staff/Parents of Students with Exposure w/Test Dates

Date

Dear Parents, Faculty, and Staff:

We have identified you or your student as someone who may have been exposed to tuberculosis (TB). TB is spread from person to person through the air. When a person with TB coughs, sneezes, speaks or sings, respiratory droplets are expelled into the air. Depending on the environment, these tiny particles can remain suspended in the air for several hours, and can be inhaled.

Persons at the highest risk of becoming infected with tuberculosis are close contacts. These are persons who have had prolonged or frequent contact with a person who has infectious tuberculosis.

At this time, we are asking you or your student to have a PPD skin test done. Nurses and staff from the [Local Health Department] will place the test on [date] and [date] beginning at [time] at [venue]. These tests will need to be read in 48-72 hours after placement. This test consists of a small injection on the forearm, just under the skin. If you or your student misses these testing times, we will contact you directly.

In order to administer this test we do need permission from a parent or guardian of your child. Please sign the brief consent statement below.

I hereby authorize [Local Health Department] to administer a PPD skin test to my child for evaluation of possible exposure to tuberculosis. Please bring this letter back on the testing dates.

Child's name (please print)

Parent/Guardian signature

If you have any questions regarding this matter, please contact [name] at [phone number].

Health Officer

School Letter: from LHD to Staff/Parents of Students w/Exposure – 2nd TST date

Date

Dear Parents, Faculty, and Staff:

In [month], you or your student was identified as someone who may have been exposed to tuberculosis (TB). At that time, you or your student was tested for TB, and those who were positive were contacted. We now need to come to [name of School] and retest those individuals who initially tested negative.

At this time, we are asking you or your student have another PPD skin test done. Nurses and staff from the [local health department] will place the test on [date] beginning at [time] at [venue]. These tests will need to be read 48-72 hours after placement, so we will return on [date] to read those tests and place tests on those who missed the first day of testing. We will then return on [date] to read those tested on [day of week of second test date]. If you or your student misses these testing times, we will contact your directly.

In order to administer this test we do need permission from a parent or guardian of your child. Please sign the brief consent statement below.

I hereby authorize [Local Health Department] to administer a PPD skin test to my child for evaluation of possible exposure to tuberculosis. Please bring this letter back on the testing dates.

Child's name (please print)

Parent/Guardian signature

If you have any questions regarding this matter, please contact [name] at [phone number].

Health Officer

PUBLIC HEALTH INCIDENT
[your agency name, address, phone number]

Internal Notification

Event: _____

Case No.: _____

Date & Time
of Event: _____

Site of Event: _____
Human
Exposure
(describe): _____

Lead Public Health Agency:

- ☐ Local (specify): _____
- ☐ State

Other Agencies Involved (check all that apply):

- ☐ CDC ☐ EMS ☐ Local School District
☐ Criminal Justice ☐ Local Police ☐ Others (specify):

Potential Media Interest (circle): *[highly likely]* ---- 5 4 3 2 1 ---- *[unlikely]*

Date & Time of Notification: _____
Investigation Coordinator: _____
Phone/Fax: _____
Notification Completed by: _____

EMPLOYER ACKNOWLEDGMENT OF CONFIDENTIALITY

I, _____, as an agent for _____
name company
in the capacity of _____ and having been contacted by
job title
_____ of _____ have been
case manager health dept./clinic name
informed that one of our employees, _____ (Case # _____)
name
has been diagnosed with active tuberculosis and has possibly exposed other staff.

I understand that medical information is confidential and that the employee named above may not be revealed as the source of the TB exposure. I also acknowledge that the diagnosis of tuberculosis is covered under the ADA (Americans with Disabilities Act) and any discrimination or retribution towards the employee is unlawful.

Signature

Signature of witness (Case Manager)

Print name

Print name

Date

Date

CHEST X-RAY LOG

Health District _____

Case No _____

[illegible]

CONTACT INVESTIGATION SUMMARY
[your agency name, address, phone number]

- ☐ Initial
☐ 3-month Follow-up

Date: _____ Case No: _____

Site name: _____

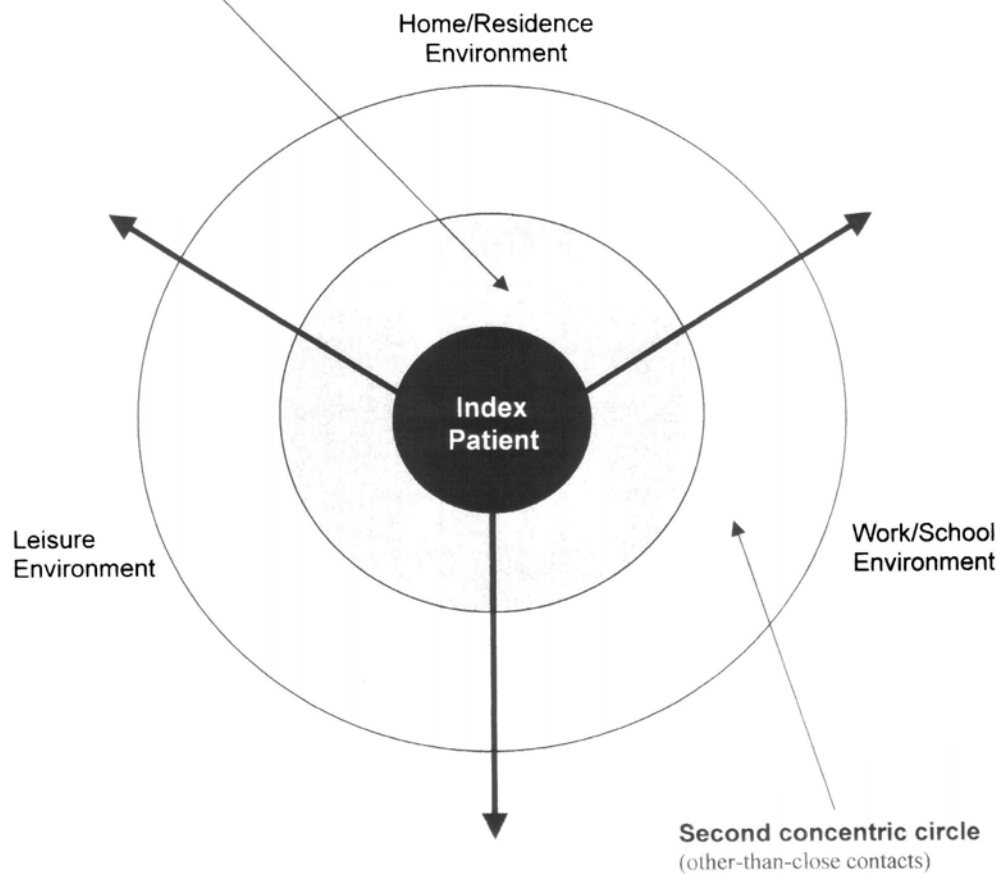
Testing dates: Initial: _____ 3-mo Follow-up: _____

	Contacts N (%)	Non-contacts N (%)	Total N (%)
Screened			
PPD-negative			
PPD-positive			
CXR within normal limits			
CXR abnormal			
CXR not done			
Previous positive PPD			
CXR recommended			
CXR within normal limits			
CXR abnormal			
CXR not done			
Percent positive (new & plus previous positive)			
Foreign-born			
U.S.-born			
Possible converters (identified at 3-mo F/U)			
Not screened			
Not tested			
PPD placed/not read			
Total			

Comments / special considerations: _____

Concentric Circle Approach to Contact Investigation for Tuberculosis

First concentric circle
(high-risk contacts and close
contacts)



HIGH PRIORITY CONTACTS FOR TESTING

Contacts Most Likely to Be Infected (Close Contacts)	Contacts at High Risk Of Developing TB Disease Once Infected
<ul style="list-style-type: none"> • Contacts exposed to patients with a high degree of infectiousness based on the following factors: <ul style="list-style-type: none"> ○ Laryngeal or pulmonary TB ○ AFB sputum smear positive ○ Cavitory disease on chest x-ray ○ Cough ○ Positive culture for <i>Mycobacterium tuberculosis</i> • Contacts exposed to patients in: <ul style="list-style-type: none"> ○ Small or crowded rooms ○ Areas that are poorly ventilated ○ Areas without air-cleaning systems • Contacts who: <ul style="list-style-type: none"> ○ Frequently spend a lot of time with the patient ○ Have been physically close to the patient 	<ul style="list-style-type: none"> • Contacts who are young children less than 4 years of age <ul style="list-style-type: none"> ○ Contacts with any of these conditions: <ul style="list-style-type: none"> ○ HIV infection ○ Injection with illicit drugs ○ Diabetes mellitus ○ Silicosis ○ Prolonged corticosteroid therapy ○ Immunosuppressive therapy ○ Certain types of cancer ○ Severe kidney disease ○ Certain intestinal conditions ○ Low body weight (10% or more below ideal)

WORKSITE CONTACT INVESTIGATION – ACTION PLAN

STEP	ACTIVITY/DESCRIPTION	RESPONSIBLE PERSON	DUE DATE	DATE COMPLETED
STEP 1	MEDICAL RECORDS REVIEW AND PATIENT INTERVIEW			
1-A	Review the index case's medical information to confirm diagnosis of sputum AFB-smear positive pulmonary and/or laryngeal TB.			
1-B	Interview the index case.			
1-C	Establish the period of infectiousness.			
1-D	Determine if there are factors present at worksite that enhance likelihood of TB transmission.			
STEP 2	ASSESS NEED FOR WCI AND DETERMINE ITS SCOPE			
2-A	Decide if a WCI is necessary.			
2-B	Review current policies regarding confidentiality.			
2-C	Re-interview index case, focusing on worksite;; request permission to disclose her/her identity.			
STEP 3	ESTABLISH COMMUNICATION WITH THE WORKSITE			
3-A	Contact the worksite.			
3-B	Establish who will be the employer liaison.			
3-C	Provide educational information re: TB and contact investigations to the employer representative and other key staff.			
3-D	Determine who will pay for the different investigation costs.			
3-E	Ensure that the employer understands the need for confidentiality and other legal concerns.			
3-F	Answer any questions re: the index case that the employer may have.			
3-G	If applicable, establish media contacts at UDOH, the LHD, and at the worksite.			
STEP 4	DEVELOP AN ACTION PLAN			
4-A	Verify information provided by the index case with the employer			
4-B	Prepare a written action plan.			
4-C	If applicable, document the need and arrangements for the screening in a letter to the company.			
STEP 5	CONDUCT AN ENVIRONMENTAL EVALUATION OF THE WORKSITE			
5-A	Determine where the index case spent time.			
5-B	Evaluate the spaces to determine how conducive they are to TB transmission.			
STEP 6	DEVELOP THE CONTACT LIST			
6-A	Identify individuals with whom the index case had contact.			
6-B	Determine which employees are high priority vs low priority contacts.			
6-C	Prepare a roster of contacts.			
6-D	Identify contacts who face barriers to healthcare.			
STEP 7	ARRANGE FOR FOLLOW-UP X-RAYS			
7-A	Identify a resource for chest x-rays (CXRs).			
7-B	Determine who will pay for the CXRs.			
STEP 8	ARRANGE FOR SCREENINGS AND TSTS			
8-A	Determine with the employer a screening site.			
8-B	ON-SITE SCREENING: Select a suitable space, date, and time for the screenings.			
8-C	OFF-SITE SCREENING: Determine where employees will be referred for testing.			

8-D	Set a target date for the completion of the first round of screening.			
STEP	ACTIVITY/DESCRIPTION	RESPONSIBLE PERSON	DUE DATE	DATE COMPLETED
STEP 9	EDUCATE THE COMPANY'S EMPLOYEES ABOUT TB			
9-A	Assess what kinds of educational materials would be appropriate.			
9-B	With the employer, plan and conduct the educational session.			
9-C	If an educational session is not feasible, make alternative arrangements for distributing materials and answering employees' questions.			
STEP 10	NOTIFY CONTACTS ABOUT AND CONDUCT SCREENING SESSION(S)			
10-A	Notify affected employees regarding their exposure and need for screening.			
10-B	ON-SITE TESTING: Conduct initial screening activities.			
10-C	OFF-SITE TESTING: Await test results.			
10-D	Arrange for and obtain CXRs.			
10-E	Refer for bacteriology evaluation and consideration for treatment.			
10-F	Be diligent in follow-up to make sure that referred individuals are properly diagnosed and treated.			
STEP 11	DECIDE WHETHER TO EXPAND OR LIMIT THE WCI			
11-A	Evaluate initial screening results to determine whether to expand the WCI.			
11-B	Consult with Local Health supervisor/officer.			
STEP 12	CONDUCT A THREE-MONTH FOLLOW-UP SCREENING-			
12-A	Notify contact who need to be re-tested.			
12-B	Make a list of contacts who require follow-up testing and set follow-up testing date.			
12-C	Conduct follow-up testing.			
12-D	Arrange follow-up CXRs as necessary.			
STEP 13	REPORT THE INITIAL RESULTS			
13-A	Prepare an aggregate report and present it to the employer.			